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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/694,548 | 10/27/2003 | Stuart G. MacDonald | 1196 005 302 0251 | 2408 |

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| EXAMINER | |
|---|---|
| BOCKELMAN, MARK | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3766 | |

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/694,548 | MACDONALD, STUART G. | |
| | Examiner | Art Unit | |
| | Mark W. Bockelman | 3766 | |

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

**Peri d f r Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) *14-17 and 25-43* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 18-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Pri rity under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4-19-2006*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. 6-2-06
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *El ction/R strictions*

Newly submitted claims 38-43 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The invention is a subcombination of the original claim 41 with particulars (i.e.parallel surfaces) to the thermoelectric device not relied upon in the combination claim 1

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 38-43 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

Claims 1-13, 18-20, 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand et al USPN 6,470,212 in view of Snell et al USPN 6,108,579 or Greeninger et al USPN 6,067,473. Weijand teaches a thermoelectric charging assembly having thermocouple 252 with temperature sensors 262 and 264, a DC-DC converter and a control element 260 that provide means for transferring thermal energy

(sensors 262, 264), means for generating electrical current, means for charging an electrical storage device (256) as well as lines positioned between the charging assembly and storage element (between 254 and 256) and lines between the storage element (256) and the implantable device circuitry 258. The storage device may be a battery or a capacitor (column 13, lines 47-49) and the implant device may be used for delivering drugs, stimulating nerves (would include nerves in brain) or regulating cardiac activity. The examiner considers the the elements 262 and 264 to be the sensors since nothing in the claim indicates that they are different from the means for transferring energy, the device can be used for regulating heart rate, which in turn may regulate body temperature since a more rapidly beating heart burns more calories and transfers heat to the body through the circulatory system. Applicant's power ratings are well known (applicant is using conventional constructs in the specification) and the values would be recognized as useful in the implant art. One of ordinary skill in the art optimize/maximize the amount of power and the efficiency that the power is delivered to from the thermoelectric device. The examiner considers the implant assembly of Weijand to lie on an open table and may be "proximate" (noted relative term) to heating elements such as heaters in an physician office that are outside of the range of temperatures between the sensors.

Applicant differs in reciting a means for detecting battery charge and a means for indicating the current is low. Applicant's specification indicates that his means are those of Snell et al. and Greeninger et al. Similarly, the examiner considers it obvious to incorporate these elements into the Weijand et al device, since knowing the current

level/ battery state is crucial to sustaining life of those relying upon the Weijand et al pacing device. To have include such features in the Weijand et al device would have been a modification considered obvious to one of ordinary skill for their disclosed advantages.

Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weijand et al USPN 6,470,212 in view of Snell et al USPN 6,108,579 or Greeninger et al USPN 6,067,473 as applied to claims 1-13, 18-20, 22-23 above, and further in view of Leysieffer USPN 6,269,266. Applicant differs from the combinations of Weijand et al in view of either Snell et al. or Greeninger et al in reciting that the energy storage element is housed outside of the implantable device that includes the circuitry for performing tasks. Leysieffer discusses the advantages of such an arrangement for replacing rechargeable batteries when they are no longer useful. One of ordinary skill in the art would have recognized the use of such an arrangement in the Weijand et al. device for when its rechargeable battery needs replacing.

***Response to Arguments***

Applicant's arguments filed 10-11-2006 have been fully considered but they are not persuasive. Applicant has made several assumptions about the types of materials used in the Weijand et al reference in order to perform calculations to persuade the examiner as to the unobviousness of the power ratings expressed in the claims. Applicant has apparently lost sight of the teachings within Weijand (colum 13, line 60) which provides for an exemplary thermocouple found in the patent of the USPN

5,897,330 as a candidate which produces 2 volts for 2 degree Celsius (See 5897330 column 14 lines 48-52) which is notably much higher than one applicant calculates. It is noted that up to 1 Volt output voltage by the thermocouple is also taught by Weijand. (column 13 line 32). While no wattage is specified, the exemplary DC-DC converter specified by Weijand is that of Hursen et al. USPN 3,818,304 (column 13 lines 35-35 of Weijand) which teaches that a thermocouple input of .35 volts and 164 microwatts is used to produce voltages that would be useful in pacemakers of the RTG type. It is reasonable to conclude that such input wattages would be envisioned by those of ordinary skill in the art in making the incorporation of the Hursen et al converter into the Weijand pacemaker system which would include the at least 50 microwatts expressed by applicant. Therefore the examiner concludes that applicant's assumptions and calculations are not pertinent to the current rejection and that indeed, the wattages proposed by applicant for the temperature range claimed would be well within the of skill in the art when considering the Weijand teachings, including it's examples, as a whole.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark W. Bockelman whose telephone number is (571) 272-4941. The examiner can normally be reached on Monday - Friday 10:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272 -6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARK BOCKELMAN
PRIMARY EXAMINER

MWB

June 2, 2006